

High pressure lines, such as compressed air hoses, hydraulic lines or water spray operations, need to be properly managed as they represent hazards to the operator as well as anyone in the immediate area.

There are four basic hazards from high pressure lines:

- Injection Injuries
- Dangerous properties of fluid (toxic)
- Contact with hot fluid
- Other material movement (explosion, whipping hose, etc.)

High-pressure hoses are a great way to remove debris and dirt from different items. Make sure safeguards are used when cleaning with compressed air.

Reduce the air pressure by using a nozzle with vents, holes, flaps or slots that will direct the air flow away from the tip of the nozzle and will reduce the air flow to less than 30 PSI if the nozzle becomes blocked.

Protect the eyes and skin of the operator and other workers from flying chips or particles. Use chip guarding such as a protective cone around the nozzle to protect the operator. Use barriers, baffles or screens to protect other workers.

Operators using high-pressure hose systems are at high risk for severe injuries including infection, disability and amputation.

In the case of injection injuries, pressurized fluids can puncture and penetrate the skin and body tissue. This kills tissue which often results in amputation of the affected body part if not treated quickly.

A pinhole leak in a hydraulic hose that's under pressure can release toxic fluid at a speed of over 400 mph. That's close to the muzzle velocity of a gun.

Injection injuries typically occur when an operator is trying to clear a blocked nozzle or is attempting to steady the gun with a free hand during the testing or operation of equipment.

20% of high-pressure washer injuries are chemical burns. 15% are lacerations to the fingers and hands.

13 high-pressure washer fatalities have occurred due to electrical shocks.

Avoiding injection injuries:

- Check hoses for leaks while pressurized, run a piece of cardboard or paper along the hose, wear gloves, long sleeves, and safety glasses
- Don't "crack" high pressure connectors or lines to "check" for pressure and/or flow
- Shut down all equipment when looking for leaks
- Relieve pressures in lines (also known as "bleeding the line")
- Check to ensure pressure relieved
Lockout/tagout - deactivation to zero energy

Other important safety practices include:

- Never point the high-pressure spray wand at another person.
- After turning a high-pressure washer off, pull the spray-wand trigger to release water pressure in the hose.
- Never repair a damaged high-pressure hose. Always replace it.
- Before operating a high-pressure hose, check all hoses to ensure they are connected properly and inspect the electrical cords for frays or other defects.
- Do not use the machine if any of its parts do not meet the manual's safety requirements.

Wear required personal protective equipment (PPE):

Safety goggles

Face shield

Steel-toed boots

Gloves.

Operator Safety Awareness:

When operating the high-pressure hose, be cautious of people or objects around you and keep a safe distance of 8 to 24 inches between the nozzle and the surface being cleaned

Do not point the stream of water toward any wiring or electrical outlets because this can destroy electrical wiring, which could cause a spark and create a fast-moving electrical fire.